



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,455	10/23/2000	Joan LaVerne Mitchell	BDL9-2000-0064	9598

7590 12/08/2003

David W. Lynch
Crawford Maunu PLLC
1270 Northland Drive, Suite 390
Mendota Heights, MN 55120

EXAMINER

WU, JINGGE

ART UNIT	PAPER NUMBER
----------	--------------

2623

DATE MAILED: 12/08/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/694,455

Applicant(s)

MITCHELL ET AL.

Examiner

Jingge Wu

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 and 34-81 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 17-20, 22, 27 and 33 is/are rejected.
- 7) ☐ Claim(s) 21, 23-26 and 28-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2623

DETAILED ACTION

Applicant's election without traverse of species I in paper No. 8 is acknowledged. Accordingly, claims 17-33 are now presented for prosecution. Claims 1-16, 34-81 are withdrawn from consideration. Applicant is reminded to cancel the withdrawn claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17-19, 27 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by the article "Vector set partitioning with classified successive refinement VQ for embedded wavelet image coding" to Mukherjee et al.

As to claim 17, Mukherjee discloses a data compression system, comprising:
a transformer (wavelet transform) for applying a linear analysis to de-correlate data into transform coefficients using transform equations (page 25 section 2+, note that the wavelet transform is to de-correlate data into transform coefficients using transform equations);

reducing errors (page 26, reducing the squared magnitude errors) of the transform by testing at least one number of transform coefficients (threshold) (page 26, section 2.1-2.2); and

determining (threshold) whether to perform a corrective action based on the test (keep the coefficients higher than the threshold, and setting zero for the coefficients less than the threshold) and performing the corrective action when a corrective action is determined to be needed (e.g. some coefficients less than threshold) (page 26).

As to claim 18, Mukherjee further discloses a quantizer for quantizing the transform data to reducing a number of bits needed to represent the coefficients (page 28 section 3).

As to claim 19, Mukherjee further discloses whether the incremental calculation of the transform coefficients will result in transform coefficients with unacceptable precision and performs corrective action by refining the at least one number (page 26, section 2.1-2.2).

As to claims 27 and 33, Mukherjee further discloses determining whether to perform a corrective action by determining whether an error resulting from terminating the incremental calculation is acceptable (thresholding) and performs corrective action by aborting (setting coefficients less than threshold to zero) the calculation of a transform coefficient (page 26).

Art Unit: 2623

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukherjee in view of US 5629778 to Reuman.

As to claim 20, Mukherjee further discloses all limitations except refinement matrix.

Reuman, in an analogous environment, discloses a refinement matrix (quantization –error matrix) to reduce the block effects of transform coding (abstract, col. 5 line 4-col. 6 line 34).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the matrix of Reuman in the system of Mukherjee in order to compensate the error of transform coding (Reuman, col. 3).

As to claim 22, Reuman further discloses the refinement matrix is based on approximately calculated transform constants (abstract, col. 5 line 4-col. 6 line 34).

Allowable Subject Matter

Claims 21 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 23-26 and 29-32 depend from claims 21 and 28 respectively, therefore, are objected.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5412741 to Shapiro, US 5787204 to Fukuda, US 6359928 to Wang et al., and the article "Improved transform coding" to Mensa-Ababio disclose methods for image compression.

Contact Information

Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

Application/Control Number: 09/694,455

Page 6

Art Unit: 2623

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu

Primary Patent Examiner

A large, stylized handwritten signature in black ink, likely belonging to Jingge Wu, is written over the text and extends across the middle of the page.